VANN PARK POND

Warrick County

2006 Fish Management Report

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EXECUTIVE SUMMARY

- A general lake survey was conducted on June 19 and 20, 2006. An aquatic vegetation survey was conducted on July 27.

- The Secchi disk reading was 2.5 ft and the conductivity was 416 µS.

- Submersed vegetation was found to a maximum depth of 6.0 ft. Chara was found at 52% of the sites. Filamentous algae was found at 32% of the sites.

- A total of 458 fish, representing seven species, was collected that weighed approximately 97 lbs. Bluegill ranked first by number, followed by redear sunfish, and gizzard shad. Largemouth bass ranked first by weight, followed by gizzard shad, redear sunfish, and channel catfish.

- Largemouth bass grew fast at all ages. Bluegill growth was similar to 2002 results with age-1 and age-2 fish exhibiting fast growth and age-3 and age-4 fish exhibiting average growth.

- The DFW should stock 1,000 largemouth bass fingerlings in 2007.

- A supplemental survey at Vann Park Pond should be conducted in the fall of the same year that largemouth bass are stocked to assess stocking success.

INTRODUCTION

Vann Park Pond is a 5-acre pond located in Vann Park 4 mi south of the City of Boonville in Warrick County. The pond is on a 185-acre parcel of reclaimed strip mined ground owned by the Warrick County Parks Department. Angler access is excellent for shore anglers as the entire shoreline is available to fishing. No boat ramp is present and there are no access fees to fish the lake. A large parking lot, park, and baseball diamonds are located directly south of the pond. Vann Park Pond's fishery is currently regulated by the state's standard length and bag limits.

Numerous fish management activities have taken place at Vann Park Pond. The initial survey conducted in 1994 revealed only green sunfish. Therefore, the fishery was renovated with Nusyn-Noxfish (5% rotenone) and then stocked with bluegill, channel catfish, largemouth bass, and redear sunfish that fall. Starting in 2000, 160 channel catfish have been stocked every two years. In 2003, 1,000 fingerling largemouth bass were supplementally stocked.

The 2002 general survey revealed a good bluegill and channel catfish fishery. However, largemouth bass numbers were low and bluegill growth had decreased since the 1999 survey.

METHODS

A general survey was conducted on June 19 and 20, 2006. The lake's physical and chemical characteristics were measured according to standard guidelines. Submersed aquatic vegetation was sampled on July 27 using guidelines written by Pearson (2004). A GPS was used to record the location of all sampling sites.

Fish collection effort consisted of pulsed DC night electrofishing with two dippers for 0.29 h, one trap net lift, and one experimental-mesh gill net lift. Only one gill net was used due to the pond's small size. All fish collected were measured to the nearest 0.1 in TL. Average weights were estimated using the Fish Management District 7 averages. Fish scale samples were taken from a subsample of sport fish for age and growth analysis. Proportional stock density and RSD were calculated for bluegill and redear sunfish (Anderson and Neumann 1996). Not enough largemouth bass were sampled to calculate accurate index values. The bluegill fishing potential index (BGFP) was calculated to assess the quality of the bluegill fishery (Ball and Tousignant 1996). With the exception of using only one gill net, all sampling was done according to DFW guidelines (Shipman 2001).

RESULTS

Vann Park Pond has a maximum depth of 8.0 ft. The Secchi disk reading was 2.5 ft and DO concentrations were marginal for fish survival below 6 ft. The conductivity was 416 µS.

Submersed vegetation was found at 53% of the littoral sites to a maximum depth of 6.0 ft. The overall mean rake score was 0.95. Chara's site frequency was 53%. Creeping water primrose, bulrush spp., and filamentous algae were also observed.

A total of 458 fish, representing seven species, was collected that weighed approximately 97 lbs. Bluegill ranked first by number (52%), followed by redear sunfish (22%), and gizzard shad (13%). Largemouth bass ranked first by weight (37%), followed by gizzard shad (22%), redear sunfish (17%), and channel catfish (14%). Black crappie and golden shiner were collected in minimal number. Species collected in past surveys include green sunfish, blue catfish, and hybrid sunfish.

A total of 237 bluegill was sampled that weighed 9 lbs. They ranged in length from 1.6 to 6.9 in. The catch rates were 655.0/electrofishing h, 42.0/trap net lift, and 5.0/gill net lift. The 2002 catch rates were 369.0/electrofishing h and 1,006.0/trap net lift. The bluegill PSD was 14 and the BGFP index was 17. Bluegill growth was similar to 2002 results with age-1 and age-2 fish exhibiting fast growth and age-3 and age-4 fish exhibiting average growth. Age-3 and age-4 bluegill averaged 5.5 and 6.3 in.

A total of 101 redear sunfish was sampled that weighed 17 lbs. They ranged in length from 2.8 to 8.1 in. The catch rates were 251.7/electrofishing h, 27.0/trap net lift, and 1.0/gill net lift. In 2002, the catch rates were 37.9/electrofishing h and 27.0/trap net lift. Redear growth was average and has slowed since 2002. Age-3 and age-4 redear averaged 6.5 and 7.3 in, compared to 6.9 and 8.1 in in 2002.

Sixty gizzard shad were collected that weighed 21 lbs. They ranged in length from 2.0 to 14.1 in. The catch rates were 179.3/electrofishing h, 8.0/gill net lift, and none were collected in trap nets.

Twenty-seven largemouth bass were collected that weighed 37 lbs. They ranged in length from 11.8 to 20.1 in. The electrofishing catch rate was 93.1/h and no bass were caught in nets. The 2002 electrofishing catch rate was 58.6/h. Largemouth bass were growing fast at all

ages with an age-3 and age-4 bass averaging 12.9 and 15.4 in. No age-1 bass were sampled and age-3 bass were the dominant year class.

A total of 27 channel catfish was collected that weighed 14 lbs. They ranged in length from 5.5 to 15.1 in. The catch rates were 27.0/gill net lift and none were caught in trap nets or by electrofishing.

Five black crappie were collected that weighed 0.1 lbs. They ranged in length from 1.7 to 2.0 in. All five sampled were age-1 fish.

DISCUSSION

The bluegill population is in better condition compared to 2002. While bluegill growth has not changed since 2002, the BGFP index increased from marginal (8) to fair (17) due to the increase in electrofishing catch rate. The bluegill PSD increased from 2 to 14 but is still below criteria for a balanced fishery. No bluegill over 7.0 in were collected, indicating that bluegill harvest is high once they reach this size.

The largemouth bass stocking was successful as shown by the comparatively large 2003 year class and the increased electrofishing catch rates. But even with the increased bass numbers their overall population size is small. This is most likely due to poor bass recruitment due to competition with gizzard shad. No age-1 bass and few age-2 bass were sampled. It is recommended that 1,000 fingerling largemouth bass be stocked by the DFW in 2007 to help increase the size of the bass population. A supplemental electrofishing survey should be conducted in the fall of the year that the bass are stocked to evaluate success of the stocking.

This was the first survey at Vann Park Pond that gizzard shad were sampled. These fish either entered the pond from a nearby creek during an 8 in rain event this past spring or were illegally stocked by someone. Gizzard shad are known to negatively effect bluegill growth by competing for food (Aday et al. 2003), resulting in slow growing bluegill populations.

Channel catfish fishing appears to be marginal for big fish as no fish over 15.1 in were collected. This is probably due to the harvest of larger fish. Fishing for catfish appears to be popular as only four were collected in 2002. Two catfish under 6.0 in were collected indicating that these fish are reproducing naturally at a low rate. The channel catfish stocking regime should not be changed.

RECOMMENDATIONS

- Stock 1,000 fingerling largemouth bass in 2007.

- A supplemental survey at Vann Park Pond should be conducted in the fall of the same year that largemouth bass are stocked to assess stocking success.

LITERATURE CITED

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APPENDIX